ZHANG, HONGBAO

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EDUCATION

The Hong Kong University of Science and Technology *September 2025 - Present*
Predoctoral Research Fellow, Department of Finance

The Chinese University of Hong Kong, Shenzhen *August 2023 - July 2025*
Master of Science in Data Science, GPA: 3.75/4.0

Xiamen University *September 2019 - June 2023*
Bachelor of Arts in Economics, GPA: 3.63/4.0

The University of Hong Kong *Janurary 2022 - May 2022*
BSc. Exchange, Faculty of Science

RESEARCH EXPERIENCES

To Think or Not to Think: Exploring the Unthinking Vulnerability in Large Reasoning Models NeurIPS 2025 Workshop (accepted)
Coauthors: ZHU Zihao, WANG Ruotong, KE Xu, LYU Siwei, WU Baoyuan *Paper*

- Identified firstly a new and critical *Unthinking Vulnerability* in Large Reasoning Models which enables reasoning bypass via delimiter manipulation.
- Proposed *Breaking of Thought* attacks (training-based and training-free) to attack the reliability of LRMs.
- Introduced *Monitoring of Thought*, a framework improving LRM inference efficiency and safety.

HID: A Hierarchical Framework for Multi-Granularity Visual-Textual Inconsistency Detection
Coauthors: ZHU Zihao, WU Guanzong, LYU Siwei, WU Baoyuan *Paper*

- Proposed a hierarchical framework (HID) for detecting multi-granularity visual–textual inconsistencies in Vision-Language Models (VLMs).
- Parsed captions into semantic graphs and performed hierarchical, iterative evaluations across granularities.
- Constructed MVTID, the first benchmark dataset for this task, and demonstrated the superior performance of HID on this benchmark and other public datasets.

Adaptive Parameter Tuning of Evolutionary Computation Algorithms Statistics in Biosciences (accepted)
Coauthors: Kwok Pui Choi, Tze Leung Lai, Xin T. Tong, Ka Wai Tsang, Weng Kee Wong *Paper*

- Proposed an adaptive parameter-tuning method with oracle properties for large-scale, high-dimensional optimization challenges in modern computing environments.

Analyzing Sentiment Discrepancies: Executives vs. AI in Earnings Calls
Master's Capstone Project

- Developed the Human–AI Sentiment Discrepancy Index (HASDI) to analyze divergence between executive sentiment and LLM-predicted sentiment.
- Processed earnings-call transcripts, applied NLP pipelines and LLM APIs, and evaluated relationships between the developed HASDI with stock returns and companies' financial performances.

A Quantitative Investment Strategy of ETFs based on Ensemble Learning of Technical Indicators
Undergraduate Thesis

- Built ETF trading strategies using ensemble learning on 50+ manually engineered technical indicators.
- Performed dimensionality reduction, cross-validation, and multi-pool backtesting to evaluate portfolio performance.

PROJECT EXPERIENCE

Decision-based Black-box Adversarial Attack Using PSO Optimization

· Introduced AdvPSO, a PSO-based method for crafting effective adversarial examples in black-box adversarial attack.

MULTIMODAL GENSHIN, LAUNCHED!

· AI system integrating an aligned LLM with RAG, and a finetuned Diffusion Model to help Genshin Impact players.

WORK EXPERIENCE

ZHESHANG SECURITIES Shanghai
Daily Intern, Electricity and New Energy Group *May 2022-September 2022*

· Conducted financial research on electricity and new energy industries, including authoring 3 industry research reports.

CHINA EVERWIN ASSET Shenzhen
Daily Intern, Department of Financial Engineering *June 2021-August 2021*

· Assisted in developing a factors based model for long-term quantitative fund performance evaluation.

ACHIEVEMENTS

Outstanding Graduates, Duan Family College, CUHKSZ *Spring 2025*
Academic Outstanding Scholarship (First Tier), CUHKSZ *Spring 2025*
Fung Scholarship, HKU *Spring 2022*
XMU Anniversary Sportsmanship Scholarship, XMU *Spring 2022*
National Project in Innovation and Entrepreneurship Training Program for College Students, XMU *Spring 2022*
Contemporary Undergraduate Mathematical Contest in Modeling, First Honor in Fujian Province, XMU *Fall 2021*
Academic Excellent Scholarship, XMU *Fall 2020*
Champion of Xiamen Universities Football League Tournament, XMU *Fall 2020*

OTHER INFORMATION

Language skills: Chinese (native), English (fluent). IELTS: 7.5/9.0 (2025, 2020); GMAT: 680 (2021).
Computer skills: Proficient in Python, MS office and R. Intermediate user of STATA, SPSS, SAS and Matlab.
Interests: Football, Trekking